

ART 34

EPO - DG 1

46

23 09. 2004

(77)

CLAIMS

1. A device (30;250;270;290) for connection to a data processing apparatus (10), the device including first coupling means for operative coupling to authentication storage means (12) storing predetermined information relating to the authentication of a transaction with the data processing apparatus (10); second coupling means (34;254) for operative coupling to the data processing apparatus (10), the device (30;250;270;290) when operatively coupled to the data processing apparatus (10) being responsive to an authentication process carried out via a communications link (19) for authenticating the transaction, the authentication process involving the use of the predetermined information; characterized by security data entry means (46;276;296) for obtaining security data independently of the data processing apparatus (10); and means for storing the security data temporarily.
2. The device of claim 1, wherein the security data is stored temporarily by means of a transient power source.
3. The device of claim 2, wherein the transient power source comprises piezo electric means.
4. The device of claim 3, wherein the piezo electric means comprises one or more piezo electric cells (282).
5. The device of claim 2,3 or 4, wherein the transient power source is charged by the security data entry means (46;276;296).
6. The device of claim 2,3,4 or 5, wherein the transient power source comprises a rechargeable battery.

ART 34 ADT

7. The device of any one of claims 1 to 6, comprising means for analysing the entered security data for determining whether to allow access to the predetermined information.
8. A device (250;270;290;310) for connection to a data processing apparatus (10), the device (46;276;296) including first coupling means for operative coupling to authentication storage means (12) storing predetermined information relating to the authentication of a transaction with the data processing apparatus (10); second coupling means (254) for operative coupling to the data processing apparatus (10); the device (250;270;290;310) when operatively coupled to the data processing apparatus (10) being responsive to an authentication process carried out via a communications link (19) for authenticating the transaction, the authentication process involving the use of the predetermined configuration information and characterized by configuration means (6) for selectively rendering the second coupling means (254) available for coupling to the data processing apparatus (10).
9. The device of claim 8, wherein the configuration means comprises (256;272;294;322) means for selectively making the second coupling means (254) available externally of the device housing.
10. The device of claim 9, wherein the configuration means (256;272;294;322) comprises a removable cap.
11. The device of claim 9, wherein the configuration means (256;272;294;322) comprises a closure member coupled to and moveable with respect to the housing for selectively closing an aperture in the housing.
12. The device of claim 11, comprising interconnection means (264,266) for connecting the closure member and the second coupling means (254), the arrangement

ATT 34 AMEND

48

being such that, as the closure member is moved to open the aperture, the second coupling means (254) emerges from the aperture.

13. The device of claim 8, comprising a knob mounted on the device housing for rotation with respect thereto, and means for converting rotation of said knob into linear movement of the second coupling means (254) such that rotation of said knob in a first direction causes the second coupling means (254) to emerge from an aperture in the device housing and rotation of said knob in a second direction causes the second coupling means to be retracted through said aperture.

14. The device of claim 9, wherein the device housing includes two parts moveable with respect to one another between a first arrangement where the second coupling means (254) is contained within the housing and a second arrangement where the second coupling means is exposed for connection to the data processing apparatus.

15. The device of claim 14, wherein the two parts are pivotally (318) coupled together.

16. The device of any one of claims 8 to 15, comprising security data entry means (276;296) for obtaining security data independently of the data processing apparatus (10), and means for analysing the entered security data for determining whether to allow access to the predetermined information.

17. The device of any one of claims 8 to 15, comprising security data entry means (276;296) for obtaining security data independently of the data processing apparatus; and means for storing the security data temporarily.

18. The device of any one of claims 1 to 17, wherein the device controls access to the predetermined information.

ART 34 ADT

19. The device of any one of claims 1 to 7 and 16 to 18, wherein the security data entry means comprises alphanumeric data entry means.
20. The device of any one of claims 1 to 7 and 16 to 19, wherein the security data entry means comprises a keypad.
21. The device of any one of claims 1 to 7 and 16 to 20, wherein the security data comprise a Personal Identification Number (PIN) and analysing means compares the PIN obtained by the security data means with a PIN stored on the authentication storage means and only allows access to the predetermined information when the respective PINs match.
22. The device of any one of the preceding claims, comprising a display (48;248) for displaying security information.
23. The device of any one of the preceding claims, comprising a data processing module (36) for controlling the communication with the data processing apparatus (10).
24. The device of claim 23, wherein the data processing module (36) of the device is configured for communicating with a corresponding data processing module (38) of the data processing apparatus (10).
25. The device of claim 24, wherein communication between the authentication storage means (12) and the data processing apparatus (10) is performed via the respective data processing modules (36,38).
26. The device of claim 23,24 or 25, wherein the data processing module (36) of the device includes means (42) for decrypting encrypted data received from the data processing module (38) of the data processing apparatus (10).

ART 34

27. The device of claim 23,24,25 or 26, wherein the data processing module (36) of the device includes means (42) for encrypting data transmitted to the data processing module (38) of the data processing apparatus (10).

28. The device of claims 26 or 27, wherein the respective data processing modules (36,38) comprise a key for allowing encryption and/or decryption of data.

29. The device of claim 28, wherein the key comprises a shared secret key for each of the respective data processing modules (36,38).

30. The device of any one of the preceding claims, wherein the device is operatively coupleable to one of more of a plurality of said authentication storage means (12), each of which is registerable with a common telecommunication system (16), and wherein the authentication process is performed by a communications link (19) with the telecommunications system (16).

31. The device of claim 30, in which the predetermined authentication information stored by each authentication storage means (12) corresponds to information which is used to authenticate a user of that authentication storage means in relation to the telecommunications system (16).

32. The device of claim 31, in which each user is authenticated in the telecommunications system (16) by means of the use of a smart card or subscriber identity module (e.g. SIM), and in which the authentication storage means (12) respective to that user corresponds to or simulates the smart card for that user.

33. The device of any one of claims 1 to 32, in which the transaction is a transaction involving use of the data processing functions of the data processing apparatus.

ART 34

51.

34. The device of any one of claims 1 to 33, in which the authentication storage means (12) is specific to that device.

35. The device of any one of claims 1 to 34, in which the authentication process involves the sending of a message and the generation of a response dependent on the message and the predetermined information.

36. The device of any one of claims 30 to 35, wherein the telecommunications system (16) includes means for levying a charge for the transaction when authorised.

37. The device for any one of claims 1 to 7, 16 and 17, wherein the security data entry means comprises a rotary knob.

38. The device of any one of the preceding claims in combination with the data processing apparatus.

39. The device of any one of the preceding claims in combination with the telecommunications system.

40. The device of any one the preceding claims, wherein the authentication storage means communicates wirelessly to authenticate the transaction.

41. The device of any one the preceding claims, wherein the authentication storage means (12) comprises a smart card or SIM which authenticates the transaction when the smart card or SIM is operable in a mobile terminal.

42. The device of any one the preceding claims, wherein the authentication storage means (12) comprises a smart card or SIM which is further operable to authenticate a mobile

209-2004

GB0304377

ART 34

52

terminal for use in the system.